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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,858	03/05/2002	Go Inoue	Q68703	8358

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EXAMINER	
SHIPPEN, MICHAEL L	
ART UNIT	**PAPER NUMBER**
1621	

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/087,858	INOUE ET AL.	
	Examiner	Art Unit	
	MICHAEL L. SHIPPEN	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 April 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 11-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 11-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Suspension

The period of applicants' requested suspension of action under 37 C.F.R. § 1.103(c) expired on July 30, 2004.

Claim Rejections - 35 USC § 103

Claims 1-8 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 5,670,702 and USP 5,981,818 in view of EP 68,785. USP 5,670,702 and USP 5,981,818 teach that methyl t-butyl ether may be decomposed to isobutylene and methanol. The isobutylene is oxidized and subsequently esterified with methanol. USP 5,670,702 differs from the claimed process in that the ether decomposition process is not actually exemplified, note line 60 of column 3 to line 12 of column 4 and Example 2. USP 5,981,818 differs from the claimed process in that the methanol obtained in the decomposition of the ether is not identified as the methanol used in the esterification step, note lines 49-66 of column 22. EP 68,785 teaches the ether decomposition steps and the isobutylene and methanol recovery. The EP specifically states the products are suitable for used in the preparation of methacrylic acid, note the last full paragraph of page 1. It is considered obvious for one to use the decomposition method and product recovery method of the EP in the process of the USP's since one would usually use known methods to carry out necessary process steps rather than use unknown methods. As to USP 5,918,818 silence regarding the source of the methanol used in the esterification, it would be an obvious economical and environmental expedient to the use the methanol generated in the integrated process. As to the claims that recite a

specific purity of the methanol, it would be obvious that a more pure methanol could be used in the prior art process. One would be motivated to use a more pure reactant since contaminants in a reactant would be carried forward into the product. It would be readily apparent to one of ordinary skill in the art that a less contaminated product can be obtained by the use of a more pure starting material.

Applicants assert that the prior art does not suggest that the methanol generated in the decomposition of the MTBE is used in the esterification. To the contrary USP 5,670,702 at lines 7 to 12 of column 4 specifically suggest that the methanol obtained by decomposition ("back-cracking") of MTBE may be used. Moreover, the fact that applicants' claims limit the source of the methanol is not seen to lend patentability to the claims. It is clear from the prior art that that methyl methacrylate may be prepared from methanol. There is no limitation on the source of the methanol. The method of methanol preparation recited in the claims is well known. No patentable significance is seen in reciting a known method of methanol preparation to be used in a known method of methyl methacrylate preparation. Applicants' discussion of the methanol impurities on page 2 of the specification is noted, but not found persuasive. First, the discussion therein is a general reference to unidentified prior art processes and as such its relevance to the instant prior art is not apparent. Moreover, if there is a disadvantage of one source of methanol over another, this would be a reason why one may be motivated to choose a source not having this disadvantage. Furthermore, it is noted that even applicants' source of methanol requires a number of purification steps as shown by the instant examples.

Applicants' assertion of "superiority" in that the methanol is effectively used and high purity methyl methylacrylate is obtained at low cost is not found persuasive. First, there is no evidence of the alleged superiority. Second, it is clear from the prior art of record that the methanol produced in the decomposition of MTBE is of value commercially and is to be used in some manner. Third, the use of the most cost effective method of production is always a consideration is any manufacturing process. The determination of the most cost effective method would necessarily take into consideration of the cost of different sources of materials. Such a determination of economics of any manufacturing process is accomplished by routine cost analysis.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Michael L. Shippen** whose telephone number is **(571) 272-0647**. The Examiner's normal tour of duty is 7:30 AM to 4:00 PM. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is **(571) 272-1600**. The official group FAX machine number is **703-872-9306**.

MShippen
August 9, 2004

MICHAEL L. SHIPPEN
PRIMARY EXAMINER
ART UNIT 1621